

WHAT IS CLAIMED IS:

1. A current generating circuit, comprising:
 - a power supply terminal having a power supply voltage applied thereto;
 - a first resistor and a second resistor, one end of each of the first resistor and the second resistor being coupled to the power supply terminal, and a resistance of the first resistor and a resistance of the second resistor being different;
 - a first transistor that allows a current corresponding to a voltage of a gate of the first transistor to flow between a first terminal and a second terminal of the first transistor, the first terminal being coupled to another end of the first resistor, and the second terminal and the gate being coupled with each other; and
 - a second transistor that allows a current corresponding to a voltage of a gate of the second transistor to flow between a first terminal and a second terminal of the second transistor, the first terminal being coupled to another end of the second resistor, and the gate of the second transistor being coupled to the gate of the first transistor.
2. A current generating circuit, comprising:
 - a power supply terminal having a power supply voltage applied thereto;
 - a first resistor and a second resistor, one end of each of the first resistor and the second resistor being connected to a power supply terminal, a resistance of the first resistor and a resistance of the second resistor being different, and at least one of the first resistor and the second resistor being a variable resistor;
 - a first transistor that allows a current corresponding to a voltage of a gate of the first transistor to flow between a first terminal and a second terminal of the first transistor, the first terminal being coupled to the other end of the first resistor, and the second terminal and the gate being coupled with each other; and
 - a second transistor that allows a current corresponding to a voltage of a gate of the second transistor to flow between a first terminal and a second terminal of the second transistor, the first terminal being coupled to the other end of the second resistor, and the gate of the second transistor being coupled to the gate of the first transistor,
 - the current flowing in the first transistor being converted into a non-linear current flowing in the second transistor.
3. The current generating circuit according to claim 2, wherein, between the first resistor and the second resistor, only the first resistor is a variable resistor.

4. The current generating circuit according to claim 2, the variable resistor being configured such that a plurality of resistor devices having predetermined resistances are coupled in series with each other.

5. The current generating circuit according to claim 2, the variable resistor being configured such that a plurality of resistor devices having predetermined resistances are coupled in parallel with each other.

6. The current generating circuit, wherein, a plurality of the current generating circuits set forth in claim 1 are cascade-connected, and the current flowing in the second transistor of the current generating circuit disposed at a first stage is allowed to flow in the first transistor of the current generating circuit disposed at a second stage.

7. The current generating circuit according to claim 1, further comprising a D/A conversion circuit that converts digital data into a current signal indicating a current corresponding to digital data and that allows the current signal to flow in the first transistor.

8. An electro-optical apparatus, comprising:
 pixel circuits disposed at intersections of a plurality of scanning lines and a plurality of data lines;
 a scanning-line drive circuit that selects the scanning lines; and
 a data-line drive circuit including the current generating circuit set forth in claim 1, and that supplies a current flowing in the second transistor of the current generating circuit to the data lines,

the pixel circuit, disposed at the intersection between one scanning line and one data line, comprising:

a capacitor device that stores electrical charge in accordance with the current flowing in the data line when the scanning line is selected by the scanning-line drive circuit; and

an electro-optical device in which a current corresponding to an electrical charge stored in a capacitor device flows when selection of the scanning line is finished.

9. An electro-optical apparatus, comprising:
 a plurality of types of pixel circuits corresponding to a plurality of primary colors, the pixel circuits corresponding to the same primary color being disposed at intersections of a plurality of scanning lines and a plurality of data lines, such that the pixel circuits share a same data line;

a scanning-line drive circuit that selects the scanning lines; and

a data-line drive circuit including the current generating circuit set forth in claim 3 for each of the primary colors, and that supplies a current flowing in the second transistor of the current generating circuit corresponding to one primary color to a data line corresponding to the primary color,

the pixel circuit disposed at the intersection between one scanning line and one data line, comprising:

a capacitor device that stores electrical charge in accordance with the current flowing in the one data line when the one scanning line is selected by the scanning-line drive circuit; and

an electro-optical device in which a current corresponding to the electrical charge stored in the capacitor device flows when selection of the scanning line is finished.

10. The electro-optical apparatus according to claim 8, further comprising a setting circuit that sets a resistance of the first resistor or the second resistor of the current generating circuit to a desired value.

11. The electro-optical apparatus according to claim 9, further comprising a setting circuit that sets a resistance of the first resistor or the second resistor of the current generating circuit for each of the primary colors.

12. The electro-optical apparatus according to claim 10, further comprising a designation circuit that designates a resistance to be set by the setting circuit.

13. The electro-optical apparatus according to claim 8, further comprising:
a memory that stores digital data defining a grayscale of the electro-optical device;

a control circuit that reads the digital data from the memory; and

a D/A conversion circuit that converts the digital data read by the control circuit into a current signal indicating a current corresponding to the digital data, and for allowing the current signal to flow in the first transistor of the current generating circuit.

14. The electro-optical apparatus according to claim 8, the electro-optical device being an organic electro luminescence device.

15. An electronic unit, comprising the electro-optical apparatus set forth in claim 8.

16. The current generating circuit, wherein, a plurality of the current generating circuits set forth in claim 2 are cascade-connected, and the current flowing in the second

transistor of the current generating circuit disposed at a first stage is allowed to flow in the first transistor of the current generating circuit disposed at a second stage.

17. The current generating circuit according to claim 2, further comprising a D/A conversion circuit that converts digital data into a current signal indicating a current corresponding to digital data and that allows the current signal to flow in the first transistor.

18. An electro-optical apparatus, comprising:
pixel circuits disposed at intersections of a plurality of scanning lines and a plurality of data lines;
a scanning-line drive circuit that selects the scanning lines; and
a data-line drive circuit including the current generating circuit set forth in claim 2, and that supplies a current flowing in the second transistor of the current generating circuit to the data lines,

the pixel circuit, disposed at the intersection between one scanning line and one data line, comprising:

a capacitor device that stores electrical charge in accordance with the current flowing in the data line when the scanning line is selected by the scanning-line drive circuit; and

an electro-optical device in which a current corresponding to an electrical charge stored in a capacitor device flows when selection of the scanning line is finished.